

Patent claims:

1. A flexible foam expanding in a fire and based on styrene/butadiene, polyvinyl alcohol, polyurethane  
5 or neoprene, wherein said foam contains, as an intumescent component, a combination of phosphoric acid compound, polyalcohol and polyamide.
2. The polyurethane-based flexible foam expanding in  
10 a fire, as claimed in claim 1, wherein said foam contains, as polyol component (A), a polyol from the group consisting of polyethylene glycol, polypropylene glycols, polypropylene glycols having ethylene oxide terminal groups,  
15 polyesterpolyols, polybutadienes having OH terminal groups, phosphoric ester-based polyols or halogenated polyetherpolyols, and, as polyisocyanate component (B), polyisocyanates from the group consisting of the  
20 methylenediphenyl diisocyanates, toluene diisocyanates, modified methylenediphenyl diisocyanates and toluene diisocyanates, prepolymers of methylenediphenyl diisocyanates and toluene diisocyanates, 4,4'-diisocyanatodicyclo-  
25 hexylmethane, isophorone diisocyanate, hexamethylene diisocyanate, 2,2,4(2,4,4)-trimethylhexamethylene diisocyanate, hydrogenated toluene diisocyanate, dimeryl diisocyanate, lysine diisocyanate, trans-1,4-cyclohexane diisocyanate,  
30 1,4-bisisocyanatomethylcyclohexane, benzene-disulfonyl isocyanate, dibenzoyl isocyanate, dihexylane [sic] diisocyanate, 3,3'-dimethyl-4,4'-diisocyanatodicyclohexylmethane, tetramethylene diisocyanate, 2-methylpentamethylene diisocyanate  
35 and xylylene diisocyanate, the ratio of component A to component B being from 100 : 30 to 100 : 80.
3. The foam expanding in a fire and based on styrene/butadiene, polyvinyl alcohol, polyurethane

or neoprene, as claimed in claim 1, wherein phosphoric ester polyols, ammonium polyphosphate, melamine phosphate, ethylenediamine phosphate, ammonium dihydrogen phosphate, aluminum orthophosphate, piperazine phosphate, guanidine phosphate or urea phosphate is or are used as the phosphoric acid compound.

4. The polyurethane-based flexible foam expanding in a fire, as claimed in claim 1, wherein the phosphoric acid compound is a constituent of the polyol component (A) in that polyols based on phosphoric esters are used.
5. The flexible foam expanding in a fire and based on styrene/butadiene, polyvinyl alcohol, polyurethane or neoprene, as claimed in claim 1, wherein dipentaerythritol, polyethylene glycol, pentaerythritol or phosphoric ester-based polyols is or are used as the polyalcohols.
6. The flexible foam expanding in a fire and based on styrene/butadiene, polyvinyl alcohol, polyurethane or neoprene, as claimed in claim 1, wherein melamine, trishydrazinotriazine or dicyanodiamide is used as the polyamide.
7. The flexible foam expanding in a fire and based on styrene/butadiene, polyvinyl alcohol, polyurethane or neoprene, as claimed in claim 1, wherein the phosphoric acid compound, the polyalcohol and melamine are each used in an amount of from 5 to 50% by weight, the sum of the amounts used being not more than 75% by weight.
8. The flexible foam expanding in a fire and based on styrene/butadiene, polyvinyl alcohol, polyurethane or neoprene, as claimed in claim 1, wherein said foam contains assistants and additives from the

group consisting of emulsifiers, foam stabilizers, drying agents, colored pigments, catalysts and solvents.

- 5     9.     The flexible foam expanding in a fire and based on styrene/butadiene, polyvinyl alcohol or neoprene, as claimed in claim 1, wherein the foam is applied from one-component spray cans, guns or cartridges.
- 10    10.    The polyurethane-based flexible foam expanding in a fire, as claimed in claim 1, wherein said foam is applied from two-component spray cans, guns or cartridges in which the polyol component and the polyisocyanate component are present separately up  
15           to application so as to inhibit reaction.
11.    The flexible foam expanding in a fire and based on styrene/butadiene, polyvinyl alcohol, polyurethane or neoprene, as claimed in claim 9 or 10, wherein  
20           the foam is applied directly on site into the area to be sealed, where it foams to form a fire barrier.
12.    The flexible foam expanding in a fire and based on  
25           styrene/butadiene, polyvinyl alcohol, polyurethane or neoprene, as claimed in claim 9 or 10, wherein the foam, after emerging from the spray cans, guns or cartridges used, has a density of from 25 to 550 g/l.
- 30           13.    The flexible foam expanding in a fire and based on styrene/butadiene, polyvinyl alcohol, polyurethane or neoprene, as claimed in claim 1, wherein the expansion factor on foaming in a fire is from 1.5  
35           to 15.
14.    The use of a flexible foam expanding in a fire and based on styrene/butadiene, polyvinyl alcohol, polyurethane or neoprene, as claimed in claim 1,

- 12 -

as a hot gas seal or as a heat-insulating soft barrier.